# MINTANA Wildlife

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#### STATE OF MONTANA

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#### A Basis For

### **Upland Game Bird Management**

During the fall of 1959 changes in the upland game bird regulations safely provided additional sport for all bird hunters. Ordinarily, people are at first reluctant to accept changes in what they have become accustomed to, but you are to be commended on your progressive attitude and support for this program. To those of you who are not fully acquainted with the reasons for such changes, I would like to point out some of the facts and procedures upon which our recommendations were based.

All of our game birds have the ability to add greatly to their numbers each year. Likewise, they are subjected to a high rate of annual loss regardless of the hunting pressure placed upon them. Trapping and banding studies have shown that in pheasants, for example, approximately 70% of all the birds living one fall will be lost by the following autumn, even if they are not subjected to hunting. Furthermore, if they are hunted, the harvest birds are not in addition to, but rather a part of the 70% which is annually lost. Accordingly, it is wise management to permit sportsmen to take as large a segment of this annual loss as possible.

Another point to consider is that there is a high annual loss regardless of whether or not the birds are exceptionally abundant. The ruffed grouse, which is a very important game bird in the northern tier of mid-western states, is subject to periods of high and low abundance. Some states have no hunting seasons during such periods of low numbers while adjoining states permit hunting every year, with some adjustments being made in season length and/or bag limits, depending on the abundance of the bird. Studies have shown that the ups and downs of this grouse have been the same in the states that allow an annual hunt as they have been in the states that close the season during lean years. The hunting success may drop during years of low bird numbers in states that remain open to hunting: but it increases and compares favorably with other states during years of greater abundance. The obvious conclusion is that the states remaining open provide annual recreational hunts to their sportsmen with no ill effects to the grouse population, and states which close their seasons make no gains so far as bird numbers are concerned. It becomes quite apparent, then, that



Biologists accumulate exacting data on all phases of management.

you cannot stockpile birds from one year to the next. If this were true, we would probably soon be overrun with robins or other birds which have a high potential for increasing their numbers and are never subjected to legal hunting.

With the preceding discussion in mind, I would like to briefly point out the management program in our state. Last year, approximately 1100 man days were utilized by professionally trained biologists in gathering information for use in management of our upland game birds.

Standardized techniques were utilized which have been proven through experimental use as the most accurate methods and as providing the best information for the time involved.

Basically, the information gathered for use in game bird management can be broken down into three categories, as follows: (1) fall hunter harvest and age ratio surveys, (2) spring breeding bird surveys and (3) summer production data.

l. Information for fall hunter harvest and age ratio surveys is obtained through hunter harvest questionnaires, checking stations and wing envelope distribution. These methods all have one thing in common—the need for sportsmen participation. Thus, outdoorsmen are provided an opportunity to help better their sport.

The harvest questionnaire provides information on the yearly trend in the statewide harvest (hunter kill), the relative importance of each species to the total harvest, and the statewide distribution of the harvest. Analysis of this information helps show the efficiency of a harvest and provides a basis for recommendations that would initiate corrective measures in special areas or for particular species.

Checking stations operated in key areas permit a yearly comparison of hunter success as compared to anticipated numbers of birds available to the hunter, thus providing an additional check on population studies.

A sample of wings from harvested birds are collected with wing envelopes and at checking stations. From the wings of native grouse, Hungarian partridges and turkeys, we are able to determine which birds are juveniles (current year hatch) and which are adults. The ratio of young birds to old birds in this sample affords the manager a check against his earlier brood counts. A large number of young per adult shows a favorable hatch and a probable upswing in bird numbers.

2. Spring breeding bird surveys are counts made during the spring. The survey techniques vary according to species being censused and make use of characteristic seasonal habits of the birds. Thus, many of the variables are eliminated and year-to-year counts more accurately reflect the comparative numbers of existing birds.

An illustration of this is the spring surveys of sage grouse. These large birds return to traditional mating areas (strutting grounds) year after year. A block of 50 to 100 square miles is carefully covered by biolo-

gists during late March or early April and all of the strutting grounds in this area are plotted on a map. Then in late April or early May all sage grouse on each of the strutting grounds are counted. On the basis of previous intensive studies it has been determined when these counts may accurately be made. Accordingly, these counts are correlated with time of day, weather conditions and time of the season. Again, research has demonstrated that a seasonal pattern of strutting activity is followed each year and a maximum number of birds are on the grounds at a certain time. This time is not necessarily the same calendar date each spring. Two or three counts of all grouse on the grounds are made during the period of peak abundance. Thus, a knowledge of the birds' habits plays an important part for obtaining accuracy in such trend information.

3. **Summer production data.** The success of a season's hatch is the most important single factor to influence the success of hunters, and information of this type is some of



Sage grouse gather on their communal grounds for sunrise courting.



These trapped sage grouse will be banded and released. Band returns will provide valuable information to game managers.

the most difficult to obtain. In general, established routes are covered several times each year in a standardized method. The peak of the current year's hatch, time of day, weather conditions, numbers of observers, and mode and speed of travel are all given consideration. Seasonal and daily weather conditions and resulting vegetative conditions are the most important variables. Such variables make it difficult to get counts that are comparable from year to year.

In many species, it has been found that average brood size from year to year is far less indicative of hatching success than is the per cent of hens that are successful in bringing off broods. Then, too, the secretive nature of hens with small chicks makes it extremely difficult to get adequate information until late in the season just prior to getting the recommendations in for the August setting of native grouse seasons.

One can understand that a successful game bird management program can best be accomplished when it is based on a systematic and organized accumulation of facts. In summary, your department's management program reaches this goal in the following manner: (1) the fall age ratios which measure the success of current year's hatch, and fall hunter questionnaires which evaluate the efficiency of the harvest program. Measurement of current year's hatch adds to the information previ-

ously gathered in the summer production surveys. When used together the information permits the game manager to tentatively forecast whether the game bird population is increasing or decreasing. (2) Spring breeding surveys provide a trend on the status of the number of birds going into the breeding season. Coupled with the measurements of the previous year's production, some indications of winter survival are obtained. Lastly (3), summer production surveys make known the success of the current hatch, and these data evaluated with the number of spring breeding birds enable the best forecast of the number of birds available to hunters

No game management program could operate efficiently without the advantage of previous investigations. All of the techniques now used are the product of fact-finding research. In conjunction with the management procedures described above, your department has men working to improve present techniques and searching for new ones which will gid the over-all resource

management. Studies on the relationships between land use and bird populations should be conducted if sound recommendations are to be made. More information is needed on the requirements of the recently introduced wild turkey in order to refine its management. During this research-conscious period in which we are living, we should not fall behind on this phase.

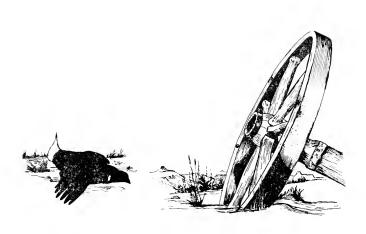
Years of demanding work have gone into providing techniques for the game management program of today. At this time I have merely included an outline in an attempt to help you better understand basic management procedures.

Past support from sportsmen for a progressive and professionally sound program has been gratifying. Continued support of this type will permit Montana to maintain its position as one of the leading game management states in the west.

Sincerely,

W. J. EVERIN

State Fish & Game Director



### MONTANA GROUSE

A great divergence in both homes and habits are found among Montana grouse. All provide their own distinctive type of hunting and whether one prefers the panicky burst of sharptails from prairie grasses or the almost pathetically passive Franklin's grouse, this group of birds provides a lot of sport and relaxation for happy nimrods.

Grouse are characterized by legs which are feathered down to the feet (excepting the ruffed grouse). The nostrils of grouse are also covered by feathers. The toes of grouse do not bear any feathers but are seasonally edged with comb-like growths.

During the spring mating season, male grouse go through their repertoires of amour. These age-old, love-making antics are known as courting displays. Females of the grouse, being rather errant in their ways, may accept any number of husbands in matrimony.

Nests are built on the ground with only the hens to care for eggs and chicks — the fickle husbands having long gone their own way.

When we speak of grouse we think of them roughly in two groups: mountain grouse and prarie grouse. Mountain grouse in Montana include Franklin's grouse, ruffed grouse and blue grouse. Montana native prairie grouse include sage grouse and sharptailed grouse.

### MOUNTAIN GROUSE

## Blue Grouse-



Blue grouse, like Franklin's, are also inhabitants of mountain evergreens and are found commonly at edges of openings in timber areas and in openings near water. In Montana their range generally coincides with Douglas fir.

#### Description

Blues are the largest mountain grouse and among our native upland game birds rank second only to sage grouse for size. Their length averages a little over 20 inches and many males weigh over 2½ pounds. Blue grouse get their name from the bluish colored plumage of the breast. The color above is dark slate.

During mating display the males exhibit dull red air sacs fringed by pure white feathers (see cover). Central tail feathers of females are brown mottled while those of males are nearly black.

#### Life History

As winter snows begin to shrink under the warm spring sun, blue grouse leave their quarters in the highlands and venture into the lower parks and aspen groves where they nest.

While courting, the vain males display their finery by strutting about with tails erect and stiff-feathered wings drooping. Their appearance may be compared to that of a strutting farmyard gobbler. With distended eyebrows, the cocks inflate their dull red air sacs, one on either side of the neck, and then deflate



them to produce a booming—sometimes hooting—"wolf call". The love calls are of such a nature that it is difficult to tell which direction they are coming from, and a distant call may seem to be very near.

Nesting usually occurs in May. Hens build their nests in shallow depressions on the ground and line them with pine needles and other vegetation. The nests may be entirely in the open, or hidden beneath logs or vegetation. On the average, seven buffy, brown-speckled eggs are laid. After hatching, the family group of young and hen stay together through late autumn.

Summer and fall food includes grasshoppers and other insects, but

is primarily vegetation. The bulk of the diet consists of berries, buds, small twigs and drupes.

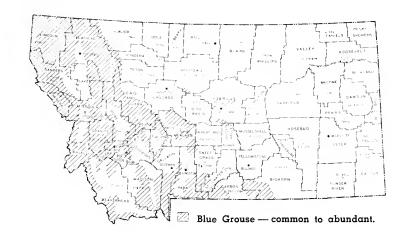
As late summer days begin to shorten, and crisp nights hint of autumn, the hardy blue grouse work their way into the high country again. Here they spend the long winters quietly in snow encrusted evergreens. Pine and fir buds and needles are the mainstay of their diet in winter.

#### General

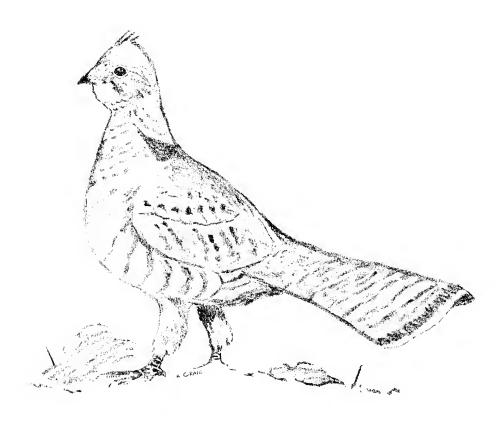
The blue grouse may be called "fool hen" locally because of his

sometimes unwary nature. However, this name applies only in remote areas, for where he has been hunted, the big grouse has become gun shy and has a bag of tricks for survival.

Hunters will prosper by searching south and west exposures of ridges, especially in areas where fir and pines are broken with open patches. Blues will often sit quietly, blending into the background as hunters pass nearby. The seasoned grouse hunter will, therefore, depend more on his eyes than his feet for filling his bag.



## Ruffed Grouse -



Thick forests, rocky tangled mountain sides, thickets and sheltered swamps are the haunts of the wary ruffed grouse. They are found over most of Montana's wooded mountains.

#### Description

Perhaps the ruffed grouse is known better throughout the United States than any other member of the grouse family. It is strictly a North American bird and is found only in the United States and Canada. It is a medium-sized grouse, about the size of a small chicken, and usually weighs less than two pounds. The average length is around 17 to 18 inches.

The color of this grouse varies quite widely between individuals, but the general coloration is a spotted reddish brown above and yellowish barred with dark below. A very conspicuous dark band near the end of the tail, bordered on either side by a lighter band, aids rapid identification. It is also the only Montana mountain grouse which bears a crest (feathers which stand upright on the head). Then, of course, there is a characteristic black ruff of feathers high on each side of the neck. When spread, the ruff looks umbrella-like.

#### Life History

There is one wild sound among the noises of spring that stands out most distinctively. It begins with a gentle throbbing which hurriedly builds up to a whirring climax. This is the call of a male ruffed grouse whose thoughts, like many other woodland creatures, turn to love this time of year.

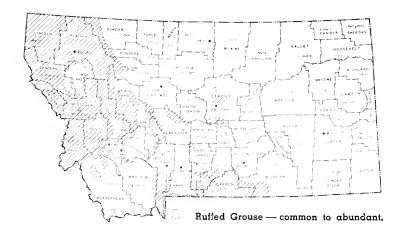
To produce the sound, the cock stands upon a fallen log or hummock of earth, arches his body and beats the air with cupped wings. The sound attracts the local ladies and also acts as a challenge to other swains who may be in the neighborhood. Drumming may also be heard in the autumn on a diminished scale.

After mating, the hens go their solitary way to hatch and care for the chicks. From seven to sixteen buff, occasionally reddish brown, spotted eggs are laid in nests usually built at the base of a tree. Setting hens often cover their nests with leaves before leaving.

Food of ruffed grouse during summer and fall includes insects, berries and fruits. During autumn the birds consume dried fruits, berries and drupes. In the winter, buds and small twigs of aspen and other broadleaf trees, what dried berries and seeds are available, and green foliage that can be found, make up the menu.

#### General

Evidently ruffed grouse shared with Franklin's the foolhardy lack of fear during early acquaintance with civilization. However, they were more quick to learn and are now one of the most wary game birds. One of its favored tricks is to explode nearly from underfoot, dodge behind a tree and make a hasty retreat, leaving the hunter startled and bewildered.



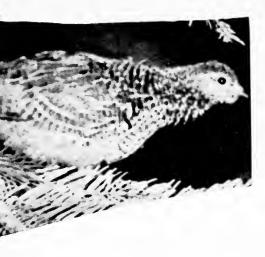
During late summer and autumn, "ruffs" often roost in trees; but during winter their roosts are usually on the ground. With the approach of fall, stiff comb-like "snowshoes" grow from the ruffs' toes. These help buoy the birds up on soft snow. The snowshoes are shed again during springtime. When winter weather be-

comes severe, the hardy grouse often burrow into snow for shelter.

On stormy and windy days, ruffed grouse seek the shelter of trees. Hunters must be especially alert on blustery autumn days, for ruffed grouse become unusually wary when the wind blows.

## Franklin's Grouse-





The little "gentlemen birds" of the mountains, as the Indians called the Franklin's grouse, are dwellers of deep evergreen forests. In Montana they are commonly found only in the northwestern mountainous area.

#### Description

Both males and females average around 17 inches long over all. Their color pattern presents sort of a spotty appearance. Males are rather black and gray above with white variegations. Females are more brown and black above and dull white, barred by black on the under-parts.

#### Life History

During the spring mating season, males prance about in a most chipper fashion with red eyebrows distended. From time to time the enamored cocks spread their tails broadly, then close them—one half, then the other half. In this fashion a faint, rustling sound is produced.

The nest is a shallow depression in the ground beneath a low bow or other vegetation. It is commonly lined with twigs, leaves or other vegetation. Between eight and fourteen eggs are laid. The eggs are buff to reddish-brown and spotted with shades of darker brown.

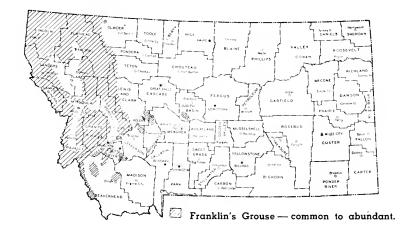
During spring and early summer a few insects are eaten but the bulk of their diet is composed of berries. In early fall, during the hunting season, the Franklin's flesh is very good but as winter sets in, they turn to the more abundant pine and fir needles for sustenance and the meat becomes quite dark and tainted with pine resins.

#### General

Franklin's grouse were first described by Lewis and Clark during their epic journey into the west-1804-06. Their unusally naive trust of man has won them the unflattering name "fool hen." And foolish they often are, casually loafing about while a hunter prepares to take their lives. Reputable stories are told of killing fool hens with a stick and of covies sitting unconcernedly awaiting their turns as one by one their members are dragged from perches by a noose attached to the end of a stick. It has been conjectured that because of the remote nature of their homes, "fool hens" have not been close enough to civilization to have yet gained an innate fear of men.

Hunters will do well to keep a sharp eye when searching out these grouse, for they spend much of their time sitting quietly in trees and can

be easily overlooked. The search should be concentrated in boggy areas or near water since this is a preferred component of their habitat.



### PRAIRIE GROUSE

## Sage Grouse-



High, sage-covered plains and plateaus are the homes of sage grouse. Formerly they were abundant over much of the Great Basin, but use of sage areas for agriculture has considerably diminished their range.

This grouse is dependent upon sage for both food and shelter and his distribution in Montana is consequently largely governed by distribution of sage. Most are found in semiarid portions of eastern Montana.

#### Description

Sage grouse, or sagehens as they are often called, are the largest North American member of the grouse family. Large males may weigh from four to seven pounds. The average length of males is around 28 inches, while females average around 22 inches.

General coloration of the large birds, is dark above, characteristically black, brown and variegated with lighter color. Below, they are a yellowish tinted white. Males bear lyreshaped feathers on their heads and about three inch long filamentous feathers on the sides of the neck. The chin and throat of the male is black and there is a large black spot on the abdomen. Females are colored similarly to males, but lack the black throat and chin. Females also lack the special neck and head feathers.

#### Life History

Even before the first fragment of dawn grays spring skies, sage grouse begin to gather on their mating grounds. The same mating grounds, barren clearings in the sagebrush, are used year after year. Males are the first arrivals on the grounds and in the quiet pre-dawn begin their strange display. With tails spread erect in a semi-circle, the magnificent males inflate their air sacs (one on either side of the neck) with a tremendous volume of air and then expel the air with a quaint, plopping noise. Other display includes strutting with drooped wings and rattling of feathers.

Males display again at sunset but few females attend the evening festivities.

The female's nest is a hollow of the ground lined with a little vegetation. An average of seven olive-buff and brown spotted eggs are laid. After about 22 days, the young hatch and begin feeding upon insects. Though animal food is consumed in quantity, especially by the young, leaves of sagebrush are the main source of food. A certain amount of alfalfa and other leafy vegetation is often consumed.

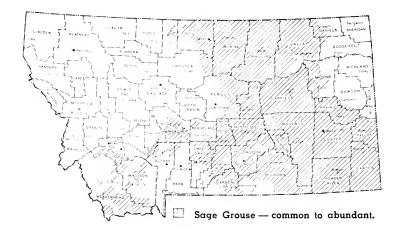
As autumn approaches, the family groups and older males begin to flock together. The birds remain flocked throughout the winter at which time they may seek the shelter of valleys.

#### General

Sage grouse are distinctive among the grouse family, not only because of their large size, but also for the lack of a heavily muscled food-grinding organ called a gizzard. The sage grouse merely has a thin-walled, stomach-like organ.

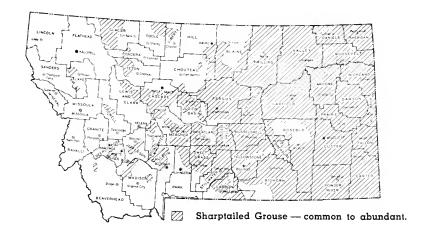
During winter, leaves of sagebrush are eaten almost exclusively by sage grouse. The sage diet affects the taste of the bird's flesh, but hunting usually opens before the change to

winter diet. Consequently, most birds are not tainted by sage during the time they may be legally hunted. A few birds may begin their sage diet early and immediate drawing of downed grouse will help insure palatibility.



## Sharptailed Grouse -





Sharptailed grouse are scattered broadly over Montana; however, they are more common in eastern Montana. Studies show two distinctive habitats of sharptails here. One most widely used is wheat fields interspersed with large areas of grass and shrubbery. In Fallon County, sharptail habitat is virtually devoid of shrubby vegetation.

The contrasting and more limited habitat is rolling sandhills of Sheridan County. Much of this area has no grain and is characterized by brushy patches interspersed with open grassland.

#### Description

Sharptails are medium-sized grouse averaging about 20 inches in length. They are primarily yellowish-brown above, spotted with black. The head is slightly crested with partially erect feathers. The head and neck are deep buff and there is a whitish stripe behind each eye. Underparts

are whitish below. The throat is also whitish.

#### Life History

Be-boppers and rock'n-rollers can take a back seat when sharptails meet on their communal dancing grounds. With the first hint of spring they gather and the show is on. Males begin their spectacular dance. rushing to and fro like tumbleweeds caught in a whirlwind. With heads lowered, tails erect and wings drooping, Don Juans of the prairie beat out a rapid tattoo with their feet. They bow, posture, fight and hoot, each trying to out-do the other in an attempt to gain the affection of a lady fair. Males also cackle and may hoot or "boom." During the hubbub, dancing males will suddenly freeze as a group. Then, as if given the green light, they resume the spirited display. Display continues feverishly during mating season and may be exercised on a diminished scale in autumn.

The shallow nest is usually built in an open area and contains ten to fifteen brown-speckled, olive-buff eggs.

During summer, leaves, buds, flowers and insects are eaten in quantity. The young especially are insect eaters. As winter approaches, they eat grains, seeds, buds and dried berries.

#### General

Sharptail are often confused with the prairie chicken, even though there are no known populations of prairie chickens now in Montana. During the fall the birds gather together and may often be seen in trees and on haystacks or straw piles. Generally, they lie quite close to a dog and will often startle hunters by breaking cover with a whirr of wings and frightened "cac-cac."

In severe weather, sharptails will burrow into the snow to escape rigors of the storms.



### INTRODUCED BIRDS

## Ringnecked Pheasant-



The ringnecked pheasant is distributed statewide in most areas where there is grain farming with adjoining streams and brush cover. The popular bird is of Asian ancestry and is a cross of two Asiatic species introduced into the United States.

#### Characteristics

These colorful birds are about the size of small chickens weighing from two to three pounds. Males have very long tails and may measure more than 30 inches from beak to tip of tail.

Hens are smaller than the cocks and are mottled brown in color. In contrast, the cock is an array of lustrous color. His head and neck is a metallic blue-green with iridescent purples and bronzes. A conspicuous white neck ring and bold, bright red skin on either side of the head decorate the immigrants most prominently. The tail is long, pointed and barred with black and olive.

#### Life History

Usually around early March, belligerent cocks establish their territories and defend them against other males. The crowing area or territory is usually an open patch of ground with cover nearby.

Display begins with a rather raucous periodic crowing. After hens have been attracted, the suitor struts among the apparently disinterested hens and displays his brilliant plumage. The hens nest on the ground with vegetation for concealment and begin laying olive brown eggs around mid-April. From 23 to 25 days are required for incubation.

Summer fare includes primarily insects and green vegetation. With autumn, as mature plants dry and insects become fewer, the pheasants shift to grains and seeds. Grains provide the bulk of their winter diet.

#### General

The affinity of ringnecks for agricultural lands and their ability to adjust to various climates have won them the unenviable position of "most popular game bird." The long tails of male pheasants and their showy colors afford easy identification for even the novice hunter. Sharptails often inhabit the same area as ringnecks and may sometimes be mistaken for hens. However, the much longer tails and featherless lower legs of female pheasants should facilitate rapid differentiation.

Ringnecks are fast runners and will usually attempt to elude hunters by running rather than taking wing. They are also masters of camouflage and may seem to vanish even in areas of scant vegetation.

After a day or two of hunting even birds of the year fully understand the intent of men who roam the fields. Consequently, the most successful hunters are ones who use well-trained dogs for either pointing or flushing and for retrieving.



A native of Europe and southwestern Asia, the little hun is the most widespread of all our upland game birds. They are found statewide from semi-arid rangelands into irrigated agricultural lands. Perhaps the best producing areas of Montana lie within the north-central portion of the state.

#### Description

Hungarian partridges are characterized by short, rounded wings and

short tails. Males and females of this species have much the same appearance but the female is generally paler in color. They average near 13 inches long and weigh from 12 to 15 ounces. Gray is the predominant color with various shades, such as a light pastel breast and shoulders. The back contains considerable brown and wings are brown with white lines running lengthwise through them. The gray flanks are barred and spotted with dark brown.

#### Life History

The first hint of spring seems to trigger huns into action and feathers fly as battles are waged by cocks fighting for the affection of a hen. The males choose but one wife and after pairing, the couples leave covies to seek a nest site. The nearest that males come to courtship display is to run about in front of a hen with tail spread and wings drooping while at the same time emitting vocal noises.

The nest is constructed in a slight hollow of the ground and lined with vegetation and feathers.

Covies may re-gather for short periods during bad weather, but pairs still stay together. An average of about 16 olive to bluish-colored eggs are laid.

Unless flushed, hens usually cover their eggs before leaving the nest. Eggs hatch after about a 24-day incubation period.

Hun cocks seem to be more devoted than most upland game bird males and are nearby to help watch over young which leave the nest soon after hatching.

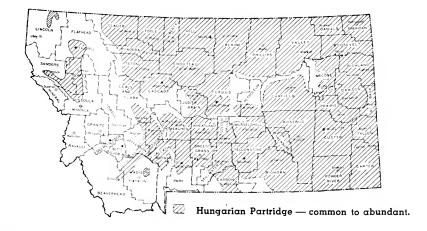
Chicks feed primarily upon insects, and though adults also eat animal foods, the primary source of food is vegetation. Seeds, grains and greens are consumed during the summer with grains and seeds supplying the staple winter and early spring diet.

#### General

The hardy little hun possesses wariness and evasive know-how to match that of nearly any game bird. They are not only strong runners, but are also fast fliers. During flight they may wheel erratically, leaving the gunner with only empty shells for his trouble. Poorly trained dogs are usually led in a frustrating and unfruitful chase by the little gray partridge.

These birds may be found near, but seldom in, wooded areas. They prefer open areas.

While roosting they form  $\alpha$  circle on the ground with heads pointed outward.





### Merriam's Wild Turkey -

#### Range

Wild turkeys are native to the United States. However, they have not been known to exist in Montana in historical times. On November 18, 1954, the Montana Fish and Game Department made its first plant of wild turkeys. Eight hens and five toms from Colorado were released in the Lime Kiln area of Judith Mountains northeast of Lewistown. In January of 1955, five toms and thirteen hens obtained from Wyoming were released in the Longpines Forest of Carter County.

To this date, 13 separate flocks have been started through transplanting.

#### Description

The wild turkey, so-called king of game birds, is the largest game bird in North America and is considered the only native member of the pheasant family.

They closely resemble the domestic turkeys but weigh less and are more stream-lined. Male "toms" can be distinguished from females by the stiff beard of tassle-like feathers growing from the upper breast area. Females are much duller in color, lacking the metallic lustre.

#### Life History

Display of male turkeys involves considerable gobbling and strutting

about with tail spread and wings drooping. He is truly a magnificent bird and so ardent a Romeo that he feeds very little, if at all, during display. In preparation for sustenance during the display fast, nature has provided a heavy pad of fat over the breast area of males.

Turkeys are polygamous. The female builds a shallow nest on the ground in a very carefully concealed location. The nest is lined with dry vegetation and egg laying begins very early in the spring. Five to seventeen creamy eggs, spotted with reddish brown and lilac-like colors are laid. Unless startled from her nest, the hen will often cover the eggs with vegetation before leaving them.

After about four weeks incubation, the young hatch and take to the field. After four to five weeks they are able to fly and begin roosting in trees. They remain with their mothers through the summer and autumn when families begin to gather together.

Flocks tend to remain together through the winter, but during late winter a shuffling takes place when males band together and form separate flocks from females. The groups of like sexes stick together until mating time approaches.

Insects, berries and green vegetation comprise the bulk of the food during summer and early autumn. With the onset of winter, seeds and grains become the mainstay.

#### General

Known for its cunning (and palatability) the turkey has long been a favorite of sportsmen. To hunt this wily bird with any measure of success, it is imperative that the nimrods are acquainted with the birds' habits.

During summer in Montana the turkeys remain in higher, forested country. In autumn they move into



low country where they feed upon waste grain strewn in stubble fields. In their travels they generally work up gullies or ridges. Often they will fly into the low country and work back uphill toward roosting areas.

A traveling flock often creates a great deal of noise while scratching and feeding. Old gobblers are usually more solitary and more wary.

Calling of turkeys is generally ineffective unless the flock has been scattered or unless it is mating season. The caller should station himself in an area where birds are likely to travel. Calling downhill or through dense vegetation is a waste of time. A most strategic spot is between two calling birds.

Occasionally on old tom may be brought running when a hunter simu-

lates noises of a gobbler fight by slapping his leg or side with a hat. Dogs are occasionally used to search out and break up a turkey flock. Then the dog must be made to lie quietly for an hour or so at which time the hunter attempts to call the flock together.

Birds that are called in will approach the caller warily and steal away or run at the slightest indication that all is not well. Standing still is ineffective when stalking a turkey, for unlike a deer or elk, the exacting eye of a turkey will immediately distinguish the form of a still man.

Patience and a good knowledge of turkey habits will pay off for the hunter who wishes to take one of North America's largest game birds.



Anxious to leave their crates, wild turkeys burst to freedom in a new homesite.



The original homeland of Chukars is Southern Asia. Those introduced into the United States originally came from India. However, there is a feeling among some biologists that more than one subspecies is represented.

The first release of Chukars into Montana was made during 1933 near Glendive. About one hundred releases have been made since, but presently appreciable numbers survive only in limited localities.

#### Description

Both males and females have the same general appearance, though males average a few ounces more in weight. The birds are a little smaller than ruffed grouse (around 15 inches long) and weigh from near one pound to a pound and a half.

A very prominent black line runs from their foreheads, through the eyes, down either side of the neck and joins in the breast area to form a rough V below the white throat. The back is brownish and the sides gray with black vertical bars. A pink bill, feet and legs add the finishing touches to these striking birds.

#### Life History

Semi-arid lands with a cover of shrubbery and with nearby steep, rocky hills are the preferred homesites of Chukars in the United States. Their food habits are quite varied. Seeds and grains make up a large part of their staples. Other foods may be insects, berries, fruits, drupes and greens.

In early spring, males within covies begin fighting with each other as they prepare to select mates. After mates have been selected, the covies begin to break up as pairs go in search of nesting sites. During display, the cock is described as running at and around the hen with head low, feathers ruffled, and wings drooping. Both males and females may energetically pursue others that trespass on the old homestead during nesting season.

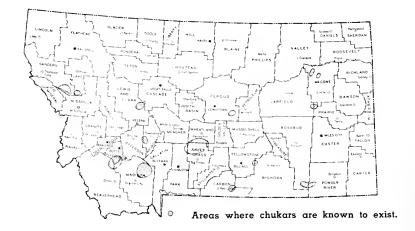
Nesting is on the ground, usually next to concealing vegetation or some natural object. Around 15 light tan eggs speckled with brown are laid. The nest is simply a shallow depression in the ground lined with vegetation and feathers.

Hens care for the nests while males go about their business. If they have not already done so, the irresponsible males desert their spouses soon after eggs hatch. When love has waned, cocks join together in small groups and loaf away the summer.

Families may band together and remain near water areas during late summer and autumn. Fall storms are usually accompanied by dispersal of the flocks.

#### General

To this year there have been no Chukar hunting seasons in Montana. Where they are hunted, gunners find a sport demanding both skill and stamina. When flushed, the covies rocket away for rocky slopes. They are strong runners and once flushed are hard to find for a second shot.





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